

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
27 November 2003 (27.11.2003)

PCT

(10) International Publication Number
WO 03/097366 A1

(51) International Patent Classification⁷:
B81B 7/04

B41J 2/20,

(74) Agent: **SILVERBROOK, KIA**; Silverbrook Research Pty Ltd, 393 Darling Street, Balmain, New South Wales 2041 (AU).

(21) International Application Number: PCT/AU02/01167

(22) International Filing Date: 29 August 2002 (29.08.2002)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
10/147,893 20 May 2002 (20.05.2002) US

(71) Applicant (for all designated States except US): **SILVERBROOK RESEARCH PTY LTD** [AU/AU]; 393 Darling Street, Balmain, New South Wales 2041 (AU).

(72) Inventor; and

(75) Inventor/Applicant (for US only): **SILVERBROOK, KIA** [AU/AU]; Silverbrook Research Pty Ltd, 393 Darling Street, Balmain, New South Wales 2041 (AU).

(81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

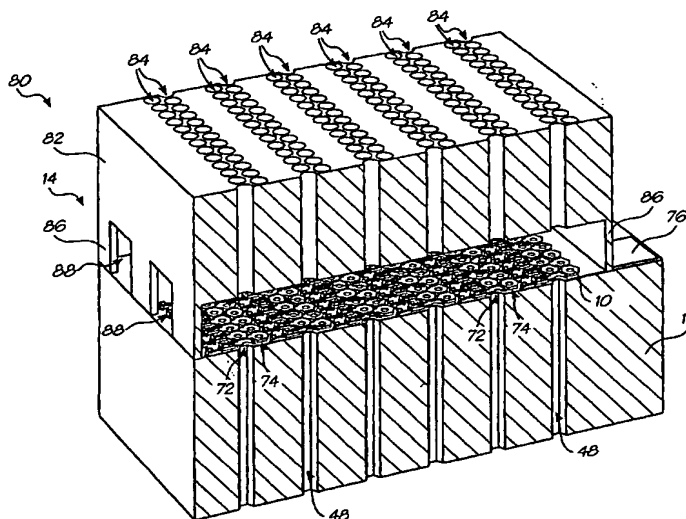
(84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

[Continued on next page]

(54) Title: A NOZZLE GUARD FOR AN INK JET PRINTHEAD



(57) Abstract: A printhead for an ink jet printer includes at least one printhead chip, which includes a substrate (16) and a plurality of nozzle arrangements (10) positioned on the substrate. Each nozzle arrangement (10) includes nozzle chamber walls and a roof wall that define a nozzle chamber. A nozzle guard (80) is positioned on the printhead chip and includes a body member (82) that is spaced from and spans the printhead chip and which defines a plurality of passages (84) that extend through the body member. The body member is positioned so that each passage (84) is aligned with one of the ink ejection ports. A support structure is interposed between the body member and the printhead chip. It is configured to permit the flow of air into a space (88) defined between the body member and the printhead chip and through each passage to keep the passages clear of particles.

WO 03/097366 A1

WO 03/097366 A1



For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.